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--2. (Amended) A wireless communication system as in claim 1, wherein
[each said sensor] at least one of said number of sensors includes only
passive electronic devices.--

--3. (Amended) A wireless communication system as in claim 1, wherein
[each said sensor] at least one of said number of sensors includes a substrate
portion having non-linear material characteristics --

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--5. (Amended) A wireless communication system as in claim 3, wherein
the desired sensor or sensors modulate the power signal and the output signal
indicative of the detected respective at least one characteristic and
~~transmits~~ the modulated signal to said control transceiver means.--

--6. (Amended) A wireless communication system as in claim 1, wherein
the at least one predetermined characteristic includes at least
[characteristics include] one of strain, acceleration, deformation, and
pressure.--

--7. (Amended) A wireless communication system as in claim 1, wherein
said control transceiver means communicates with each said sensor [sensors]
over a microwave frequency range.--

--8. (Amended) A wireless communication system comprising:
a number of actuators each including an antenna and being located on or
within an element and being adaptable for causing said element to deform in a
desired manner when actuated; and
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control transceiver means, operable to communicate in a wireless manner
with said number of actuators, for supplying a power signal to a desired
number of said actuators so as to activate each respective antenna thereof and
enable [said respective number of] the desired actuator or actuators to cause
said element to achieve the desired deformation.--

--9. (Amended) A wireless communication system as in claim 8, wherein
[each said actuator] at least one of said number of actuators includes only
passive electronic devices.--

--10. (Amended) A wireless communication system as in claim 8, wherein
[each said actuator] at least one of said number of actuators includes a
substrate portion having non-linear material characteristics.--

Cancel claim 12.

Amend claim 13 by rewriting the same as follows:

--13. (Amended) A wireless communication system as in claim 8, wherein said control transceiver means communicates with [said] the actuator or actuators over a microwave frequency range.--

Please add the following new claims:

--14. A wireless communication system as in claim 1, further comprising means for storing the supplied power signal.--

--15. A wireless communication system as in claim 14, wherein the storing means includes one of a rechargeable battery and a capacitor bank.--

--16. A wireless communication system as in claim 1, wherein each said antenna is a micro-strip type antenna.--

--17. A wireless communication system as in claim 8, further comprising means for storing the supplied power signal.--

--18. A wireless communication system as in claim 17, wherein the storing means includes one of a rechargeable battery and a capacitor bank.--

--19. A wireless communication system as in claim 8, wherein each said antenna is a micro-strip type antenna.--

--20. A wireless communication system as in claim 10, wherein the desired actuator or actuators demodulates the received power signal so as to form an actuation signal.--

--21. A system for monitoring and/or deforming a structure in a desired manner, said system comprising:

a number of devices each including at least one of a sensor and an actuator each having an antenna and being located on or within said structure, in which each said sensor is adaptable for monitoring at least one predetermined characteristic of said structure and each said actuator is adaptable for causing said structure to deform in said desired manner when actuated; and

control means for transmitting a modulated signal to a desired number of said devices in a wireless manner so as to activate each respective antenna thereof and enable each respective sensor to monitor the at least one predetermined characteristic of said structure and enable the respective

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~~actuator or actuators to cause said structure to deform in said desired manner.--~~

--22. A system as in claim 21, wherein at least one of said number of devices includes only passive electronic devices.--

--23. A system as in claim 21, wherein at least one of said number of devices includes a substrate portion having non-linear material characteristics.--

--24. A system as in claim 23, wherein said substrate portion is a piezoelectric ceramic material.--

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~~--25. A system as in claim 21, wherein said control means transmits said modulated signal to said desired number of said devices over a microwave frequency range.--~~

--26. A system as in claim 21, wherein each said antenna is a micro-strip type antenna.--

--27. A system as in claim 21, wherein the desired device or devices demodulate the received modulated signal so as to form an actuation signal.--

--28. A system for causing a structure to be deformed in a desired manner, said system comprising:

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a number of sensors each having an micro-strip type antenna and being located on or within said structure and being adaptable for measuring at least one predetermined characteristic of said structure;

a number of actuators each having an micro-strip type antenna and being located on or within said structure and being adaptable for causing said structure to deform in said desired manner when actuated;

control means for transmitting a microwave signal in a wireless manner to a desired number of said sensors so as to activate each respective antenna thereof and enable each of said desired number of sensors to provide a sensed signal indicative of the measured at least one predetermined characteristic; and

means for processing each said sensed signal and for supplying each processed signal to appropriate one or ones of the actuators so as to actuate the same and cause said structure to deform in said desired manner.--

--29. A system as in claim 28, wherein said control means includes transceiver means for communicating in a wireless manner with each sensor and actuator.--

--30. A system as in claim 29, wherein said transceiver means communicates with each said sensor and said actuator over a microwave frequency range.--

--31. A system as in claim 28, wherein the processing means is located on or within said structure.--

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--32. A system as in claim 28, wherein the processing means is not located on or within said structure and wherein said processing means transmits each said processed signal to the appropriate one or ones of the actuators in a wireless manner.--

--33. A system as in claim 28, wherein at least one of said number of sensors and said number of actuators includes only passive electronic devices.--

--34. A system as in claim 28, wherein at least one of said number of sensors and said number of actuators includes a substrate portion having non-linear material characteristics.--

--35. A system as in claim 34, wherein said substrate portion is a piezoelectric ceramic material.--

--36. A system as in claim 28, wherein the at least one predetermined characteristic includes at least one of strain, acceleration, deformation, and pressure.--

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~~--37. An element for use in a system for monitoring and/or deforming a structure in a desired manner, said element having a single antenna and being located on or within said structure and being adaptable to operate as at least one of a sensor device and an actuator device, in which said element monitors at least one predetermined characteristic of said structure when operating as a sensor device and in which said element causes said structure to deform in said desired manner when operating as an actuator, and, in which a modulated signal is transmitted to said element in a wireless manner so as to activate the antenna thereof and enable said element to monitor the at least one predetermined characteristic of said structure when operating as a sensor~~

device and enable said element to cause said structure to deform in said desired manner when operating as an actuator.--

--38. An element as in claim 37, wherein said element is adaptable to operate simultaneously as a sensor device and an actuator device.--

--39. An element as in claim 38, wherein the antenna is a micro-strip type antenna and wherein said element includes a grating layer.--

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--40. An element as in claim 38, wherein said element includes only passive electronic devices.--

--41. An element as in claim 39, further having a protective cover layer and a substrate having a slot and a feedline.--

--42. A system as in claim 26, wherein at least one of said number of devices includes a protective cover layer and a substrate having a slot and a feedline.--

--43. A system as in claim 28, wherein at least one of said number of sensors and said number of actuators includes a protective cover layer and a substrate having a slot and a feedline.--

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--44. An element for use in a system for monitoring and/or deforming a structure in a desired manner, said element having a single antenna and being located on or within said structure, in which energy is provided to said element from a signal transmitted to said antenna in a wireless manner.--

--45. An element as in claim 44, further having an energy storage device and wherein energy is supplied to said energy storage device from the transmitted signal for storage thereat.--

--46. An element as in claim 45, wherein said energy storage device is a rechargeable type storage device.--

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--47. An element as in claim 46, wherein said rechargeable type storage device is a thin film battery.--